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Rendering of a nearly $10 million facility fully funded by ARRA

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U.S. Fish & Wildlife Service

Northeast Region

Fiscal Year 2009 State of the Refuges

From the Chief

Fiscal year 2009 was a year of change and opportunity for refuges in the Northeast Region. After several years of downsizing and reorganizing, the budget situation has improved. Beginning in FY2008, national wildlife refuges nationwide have used congressionally allocated funding increases to stabilize the baseline funding for staffed refuges in the National Wildlife Refuge System. FY2009 gave us a chance to begin to rebuild. Improvements are being made in funding and staffing our wildlife inventory and monitoring efforts, our visitor services work, and our administrative staffs. Utilizing savings achieved through downsizing in prior years and new funding provided in FY2009 and FY2010 (which began on October 1, 2009) we will fill 16 new field-based positions in the Northeast Region.

The accomplishments of our 71 Northeast Region refuges are many and great. In the areas of land protection, science and management, welcoming visitors, and employing youth, Northeast Region refuges are leading the way nationally for the National Wildlife Refuge System. Our 72nd national wildlife refuge in the Northeast Region was approved in early 2009, and Cherry Valley will soon be an official refuge when the first tract of land is purchased. This community-based refuge planning effort is a model for a new way to plan resource protection in consultation with local citizens and governments. In 2009, we also benefitted from the American Recovery and Reinvestment Act, providing a big investment for green infrastructure, youth employment and wildlife management.

The employees, friends, volunteers and partners have brought us through a difficult time. We have emerged stronger, with a renewed sense of purpose. We are moving from the traditions of past management efforts to a future of managing refuges as an integral component of ecoregions that contribute to nationwide conservation of our federal trust resources.

Thank you to our employees, volunteers, friends, partners and the American public for your support of Northeast Region refuges and the entire National Wildlife Refuge System. I look forward to building on our success in 2010.

Tony

USFWS

Sunset at Monomoy

Regional profile: 2009

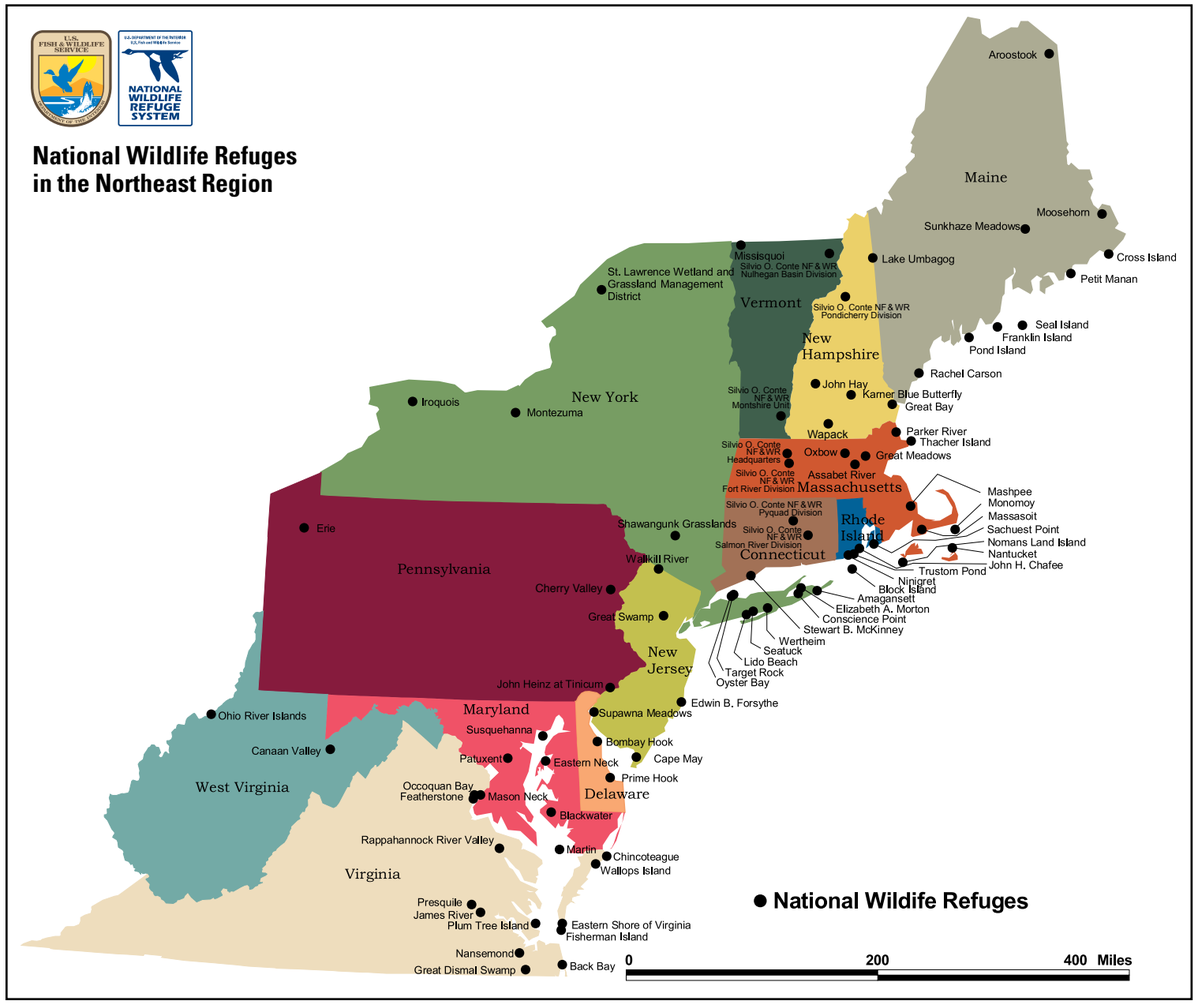
Operations budget:	$51,000,000
Full-time staff:	357
Number of refuges:	71
Designated wilderness:	20,977 acres
Visitors:	5,934,000
Friends groups:	56
Volunteer support:	222,911 hours
Number of volunteers:	5,695

Land Acquisition

The Northeast Region collaborates with friends groups, private landowners, state and local governments and conservation advocates to strategically protect land and water that provide wildlife habitat and meet the needs of the people who use those lands for recreation. In 2009, the Northeast Region received over $14 million from the Land and Water Conservation Fund (LWCF) for land purchases made possible by strong support from the congressional delegation in northeast states. These funds and those from the Migratory Bird Conservation Fund (MBCF) and North American Wetland Conservation Act (NAWCA) made the acquisition of 4,796 acres possible throughout the region, with an additional 851 acres to be purchased in the near future.

Umbagog NWR, Errol, NH

The Trust for Public Land, the town of Errol and the U.S. Fish and Wildlife Service (Service) permanently protected 5,016 acres of former T.R. Dillon Logging Inc. lands in Errol, New Hampshire. Of the newly protected land, 3,177 acres have been added to the Umbagog NWR and 1,839 acres have been added to Errol's town forest, the Thirteen-mile Woods Community Forest. These lands are critical for waterfowl, birds and aquatic species, including black duck, black-backed woodpeckers, 24 warbler varieties, American woodcock and brook trout. Linking Errol's Thirteen-mile Woods Community Forest and Umbagog



NWR will create a 31,000-acre block of contiguous conservation and recreation lands. Much of the property has been logged heavily, but the forest will regenerate and habitats will be restored. The portion of the property being acquired by the Service will be managed primarily for wildlife conservation. The property being acquired will expand the community forest to be managed for sustainable timber harvesting, wildlife habitat conservation and recreational access. Both parcels will be forever off-limits to development.

Silvio O. Conte NFWR, Jefferson, NH
The Service and The Nature Conservancy jointly protected 101.6 acres of valuable bird habitat in the Pondicherry Division of the Silvio O. Conte National Fish and Wildlife Refuge. As early as 1889, bird watchers began making detailed observations of the remarkable diversity of bird life at Pondicherry in Jefferson and Whitefield, New Hampshire. Today, the area is documented to harbor a greater diversity of birds than any other similar-sized area in New Hampshire. The property is primarily forested, and includes a stream and several wetlands that flow into Moorhen Marsh in the heart of the wildlife refuge.

John H. Chafee NWR at Pettaquamscutt Cove, Charlestown, RI
The Rhode Island Department of Environmental Management, the Service, The Conservation Fund and The Nature Conservancy worked together to protect two tracts in southern Rhode Island: the 48-acre Camp Pastore property, located in Charlestown along the northwestern shore of Watchaug Pond, and 72 acres of previously state-owned land known as the Stedman property that fronts on Pettaquamscutt Cove.

The Stedman property is adjacent to protected forest on both the northern and southern boundary and extends to the salt marsh and open water of Pettaquamscutt Cove. Protection of this site serves to retain the value of contiguous forests for species of migratory birds that depend on large tracts of intact habitat for breeding. A survey indicated 22 species of birds presumed to be nesting in the forested portions. Several of these are identified as species of high conservation concern for southern New England. This tract is expected to support numerous additional species of high priority migratory birds during the breeding season and provide valuable migratory stopover and wintering sites for numerous other species.

Silvio O. Conte NFWR, Haddam, CT
The Salmon River Division of the Silvio O. Conte NFWR was officially established on August 28, 2009, with the acquisition of its first parcel of land. The property includes 285 acres located on the Salmon River and Pine Brook in Haddam, Connecticut and was acquired from The Nature Conservancy and the town of Haddam for $1.75 million. The land links the ecologically rich Salmon Cove with more than 6,000 acres of protected land to the north. This tract is considered one of the most important properties for conservation due to its location at the confluence of the tidal Pine Brook and the Salmon River.

Great Dismal Swamp NWR, Suffolk, VA
The Great Dismal Swamp NWR, in partnership with the Trust for Public Land, added 1,481 acres of mainly forested wetland to the refuge with funding through the Migratory Bird Conservation Fund. These funds are generated through the sale of federal duck stamps. The Great Dismal Swamp NWR was established in 1974, and over the past 35 years the refuge has grown to protect more than 112,000 acres that are considered by many scientists to be the heart of the original ecosystem. The new lands border the Pasquotank River and offer federal protection for the headwaters of the drainage basin. Acquisition of this tract will provide an opportunity to restore and manage additional native forested wetland communities and some areas of remnant marsh. Acquisition of this parcel will also provide important habitat for waterfowl, many other migratory bird species and other wildlife.

Science and Management in a Changing Climate

The National Wildlife Refuge System protects and restores habitat for key wildlife species that are the responsibility of the federal government. Its mission is, *"to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."*

Each national wildlife refuge in the Northeast Region performs wildlife-related work each year to meet the mission of the National Wildlife Refuge System and the individual purposes of each refuge.

Volunteers restoring tidal marsh on Barren Island, Blackwater, NWR

Much of our on-the-ground efforts are directed to wildlife related work. Managers, biologists, maintenance professionals, volunteers, partners and others work to evaluate the condition of refuge habitat to ensure that migratory birds, fish and other wildlife find the best conditions possible for their survival. This work takes many forms, from habitat assessment to population surveys for active management of lands to improve productivity or eliminate invasive species. The threats that individual species face often determine the intensity of management and survey efforts. Our work includes capturing and banding migratory birds, gathering data through observation, and outreach and education of the general public by refuge staff and cooperators. The most significant achievement among the refuges of the Northeast Region was a combined progression of studies and monitoring that will lay the foundation for successful wildlife management in an era of changing climate.

Climate
All coastal refuge managers will likely be faced with difficult decisions relating to management as climate change and sea level rise impact the coasts. For example, as sea level rises, management and maintenance of coastal wetland impoundments will become increasingly challenging and expensive. Coastal refuge managers in the Northeast Region are working together using structured decision-making (SDM) to develop a consistent standardized process to make informed decisions about the future of coastal wetland impoundment management in the face of climate change.

The region is implementing the sea level affecting marshes model (SLAMM) to predict sea level rise in a changing climate and identify at-risk coastal refuges. Through SLAMM-View, a Web-based program that maps refuge habitats at various predicted sea levels, we can better understand the potential risk to our coastal habitats and inform the American public of the risk posed to coastal refuges. The strength of this tool is its ability to visually show the modeling of sea level rise predictions, allowing people to see the impacts in a more intuitive way. Every staffed coastal refuge in the Northeast Region conducted a SLAMM analysis in 2008 and 2009. The results will yield invaluable forecasts that will inform our management and conservation decisions. By incorporating reliable science into proactive management strategies, we hope to engage the public in discussions on how we can adapt to climate-driven environmental changes.

In addition to the SLAMM analysis, the Northeast Region initiated a multi-refuge effort to assess the integrity of our tidal marshes. The project will produce a salt marsh integrity index of refuge tidal marshes, which will give the region a first look at the plethora of biological metrics that effect tidal marshes. It will also provide the region its first rigorous look at the biological and chemical limiting factors in our tidal marshes. Lastly,

this project will position us to prioritize restoration or management needs on coastal refuges.

Throughout the region, energy conservation and installation of alternative energy equipment is a major focus of our climate change and carbon reduction efforts.

Management at specific refuges

At *Edwin B. Forsythe NWR, Oceanville NJ,* the refuge partnered with The Conservation Fund's Go Zero program to restore nine acres of fragmented forest and sequester carbon at the same time. Funded by the Go Zero program, trees were planted at a density of 109 trees per acre in a random pattern. As the trees grow over the next 100 years, they will absorb more than 6,319 tons of carbon dioxide from the atmosphere. This innovative program helps offset carbon emissions while providing forested habitat – a win-win solution for wildlife.

At *Rachel Carson NWR, in Wells, ME,* the refuge expanded the open area along Seapoint Road to help recover the declining New England cottontail rabbit. Once common throughout the region, New England cottontail is now an endangered species in Maine and a candidate species for Endangered Species Act protection. The rabbits need thick shrubland habitat for survival. Older trees have shaded out the understory, thinning the shrubs until there is no longer suitable rabbit habitat. The refuge is working with private, public and non-profit partners to establish core demonstration sites on public lands to create and showcase these vital habitats.

Pamela Wells and www.oakleafs.com

New England cottontail

At *Mashpee NWR, Mashpee, MA,* refuge staff, the Waquoit Bay Reserve Coastal Training Program, Massachusetts Department of Conservation and Recreation, and Mashpee Wampanoag Tribe presented information and training on the endangered New England cottontail. Recent grants of more than $1 million are supporting efforts and the development of a conservation strategy to recover the New England cottontail.

At the *Eastern Shore of Virginia NWR, Cape Charles, VA,* the refuge, in collaboration with the Center for Conservation Biology at the College of William and Mary, joined the Regional Shrub/Scrub Research Project. This study is developing a protocol to assess the status and changes of fall migrating land birds using managed shrub habitats on the refuge. The project was two-pronged, with the initial work consisting of vegetation assessments, fruit counts, bird surveys, foraging observations and mobbing, followed by the operation of a passerine banding station. As a pilot year, the study provided the groundwork for improvements to protocol and also provided baseline data for the current shrub/scrub habitat prior to management treatments. This work is part of a region-wide adaptive management consultancy project that also involves Rachel Carson, Parker River, Great Meadows and Trustom Pond NWRs.

Endangered species management

At *Great Swamp NWR, Basking Ridge, NJ,* management of habitats for the federally threatened bog turtle continued in 2009. Refuge staff, interns, volunteers and noted bog turtle experts worked tirelessly to set back habitat succession and maintain suitable habitat, restore historic and potential new habitat, and control the onslaught of invasive species. A radio telemetry study revealed the surprising usage by turtles of several new areas for foraging, resting and hibernation. Visual surveys and trapping at one site yielded several new individuals, almost all juveniles. The presence of juveniles is extremely important because they represent the future of the population and indicate that successful breeding, nesting and hatchling survivorship is occurring. This is likely the result of the proactive management and hard work that the refuge and partners have undertaken to ensure the survival of bog turtle at the Great Swamp NWR and elsewhere in New Jersey.

Bog turtle

At *Great Dismal Swamp NWR, Suffolk, VA*, work continued to improve pine/pocosin habitat, part of the effort to recover the endangered red-cockaded woodpecker, a resident of the Dismal Swamp until the late 1960s. In 2009, approximately 940 acres were completed, which added another 1,860 acres of potential habitat. If all habitat parameters and coordination with the state of Virginia are in place, the refuge could bring in five pairs of birds in 2011, the second population in Virginia.

Throughout the Northeast Region, refuge field stations worked on and off refuge land to help recover the threatened piping plover. Rachel Carson, Parker River, Monomoy, Stewart B. McKinney, Rhode Island Complex, Long Island Complex, Edwin B. Forsythe, Cape May and Chincoteague NWRs all played major roles in plover management. Refuge staff and partners were responsible for efforts that led to the fledging of plover chicks in 2009. Also in late 2009, the region made the decision to fund several refuges with long-term projects to support plover management for the next 10 years.

Fish habitat evaluation and improvement

At *Moosehorn NWR, Baring ME,* wetland management partner Ducks Unlimited designed and supervised construction of a rock chute for the Trout Brook impoundment at the Edmunds Unit. The 1965-era water control structure and dike blew out in May 2009 during heavy rains. The rock chute allows water to flow over into a settling pond and ease into the intermittent wetlands below, eliminating erosion and reducing staff time to monitor water levels. This also helps to improve the water quality of Hobart Stream, which is habitat for brook trout and Atlantic salmon.

Also at Moosehorn NWR, the refuge hosted two Conservation Intern Program (CIP) students who completed a survey

Eric Engbretson/USFWS

Brook trout

of 85 cross drain culverts and 47 other structures that could potentially impede fish passage. This information will be entered into a state-wide database maintained by the Gulf of Maine Coastal Program Office.

At *Umbagog NWR, Errol, NH,* the refuge's two Youth Conservation Corps (YCC) crews worked with fishery biologists from Maine and New Hampshire to assess brook trout habitat and abundance on every small tributary of Lake Umbagog. This project gathered much needed baseline data for the refuge and both states; there is concern that brook trout populations may be affected by changing climate

Ohio River Islands NWR, Williamstown, WV, in collaboration with the West Virginia Division of Natural Resources and U.S. Army Corps of Engineers, designed and built stone dikes along the channel side and toe of Buckley Island. Constructed of limestone rock and placed offshore of the island in two to three feet of water, the dikes serve as aquatic reef habitats and bank protection structures, providing shallow water and wetlands protection from boat wash and wave action. This partnership has stabilized and protected over 12,700 feet of refuge shoreline habitat. There is evidence of emergent wetland plants and bottomland hardwood seedlings establishing themselves along the shorelines in areas where other protection work was completed in 2006. Since 2007, the refuge has been working with a variety of partners to implement a mussel and snail restoration project. Teams have assessed habitat, collected and aggregated broodstock mussels and snails for captive propagation, raised juvenile mussels for stocking, and translocated adult mussels back to the restoration area. In 2009, the restoration team stocked the first captive-raised juvenile mussels into the Ohio River adjacent to the refuge. This project is a collaboration between the Service, West Virginia Division of Natural Resources, Ohio Department of Natural Resources, and Ohio State University/Columbus Zoo Mussel Conservation Center.

Mussels

Invasive species management

As humans have expanded their "range" across the country, plants and animals have been introduced into habitats with significant detrimental results. For example, nutria, a South American rodent introduced into the U.S. for use in the fur trade, has decimated marshes from Louisiana to Maryland. Phragmites, or common reed, was introduced from Europe; this plant causes significant changes to wetlands, reducing their value as wildlife habitat. In order to assist with the survival of native wildlife, land managers work to eradicate or limit the spread of invasive species. In 2009, refuge managers treated over 7,500 acres of land in order to control the spread of invasive species. Some specific project examples follow.

At *Montezuma NWR, Seneca Falls, NY,* the refuge began a new alliance called MARSH (Montezuma Alliance for the Restoration of Species and Habitats) to restore, protect and enhance wildlife habitat on the refuge by removing invasive and exotic plant species and reforesting some reclaimed sites with native trees and shrubs. The alliance is a collaboration between the Service, New York State Department of Environmental Conservation and the Montezuma Audubon Center, with the help of volunteers from local towns, nearby communities and universities. Volunteers cleared a mile-long stretch of the Seneca River and planted native trees such as swamp white oak, sycamore and red maple in the floodplain.

At *Oyster Bay National Wildlife Refuge, Oyster Bay, NY,* the refuge hosted a series of workdays to remove water chestnut, an invasive aquatic plant that forms dense floating mats which displace native vegetation, block sunlight, interfere with oxygen content and impede recreational activities. One seed can produce 300 new seeds in a single year. Staff and volunteers from The Nature Conservancy, Friends of Oyster Bay, North Shore Land Alliance and New York State Department of Environmental Conservation removed 23,000 pounds, or 60 cubic yards, of water chestnut from Mill Pond. Over 300 hours of volunteer time over four workdays were devoted to this project.

Aggressive invasive species control was continued at *John Heinz NWR, Philadelphia, PA,* during the summer of 2009, including helicopter aerial spraying of Phragmites and purple loosestrife to help restore wild rice and native vegetation for more productive wildlife wetland habitat.

At *Back Bay NWR, Virginia Beach, VA,* refuge staff and partners combated 1,448 acres of Phragmites as part of a Northeast/Southeast region, multi-refuge, state and private landowner Phragmites control program effort. The collaborative project involves Mackay Island NWR, the Service's Northeast Region Fire Management Program, Virginia Field Office and Partners for Fish and Wildlife Program; Virginia Department of Conservation and Recreation, False Cape State Park; Virginia Department of Conservation and Recreation, Natural Heritage Division; Virginia Department of Game and Inland Fisheries; Virginia Geographic Information Network; Back Bay Restoration Foundation; city of Virginia Beach and private landowners. Successfully reducing Phragmites in the Back Bay watershed will both restore important habitat for tidal and emergent marsh wildlife and restore rare plant species in the bay.

At *Presquile NWR, Hopewell, VA,* habitat restoration was tackled by 15 volunteers who planted 154 native trees to stabilize the island's shoreline, create wildlife corridors and shade out invasive grasses. Toyota provided a grant and staff to help with planting. The National Audubon Society's Virginia Important Bird Area Program and the Richmond chapter of the Audubon Society provided volunteer recruitment and outreach.

Marvin Moriarty/USFWS

Bat affected by white-nose syndrome

Bats

The spread of white-nose syndrome has decimated bat populations throughout the eastern U.S. While most Northeast Region NWRs do not host the winter hibernacula or caves where the disease seems most prevalent, we do host maternity colonies and provide summer habitat for bats. Some examples of our expanding work with bats follow.

At *Maine Coastal Islands NWR, Milbridge, ME,* the refuge initiated bat monitoring on Petit Manan, Matinicus Rock and Metinic islands, in support of the Ocean Energy Task Force, to evaluate potential wind energy demonstration sites in the coastal waters of Maine.

At *Parker River NWR, Newburyport, MA,* the refuge contracted with the Biodiversity Research Institute to conduct migratory bat surveys on the refuge and at Great Bay NWR.

At *Supawna Meadows NWR, Pennsville, NJ,* a bat survey determined healthy bat colonies in existence at a locally significant old barn. A story of this effort and the partners involved appeared in Refuge Update.

Great Swamp NWR, Basking Ridge, and Wallkill River NWR, Sussex, NJ, completed a fifth successful year of federally endangered Indiana bat research. Mist-netting surveys were conducted from May 15 to August 14 at 12 sites on the refuge. A total of 26 Indiana bats (15 females and 11 males) were netted at six of the sites. Fourteen individuals (8 females and 6 males) were fitted with radio transmitters and tracked to determine roosting sites. Bats with radios helped researchers to identify 38 roost trees, three of which were determined to be primary roost trees (communal roost trees used by 30 or more bats). Mist-netting surveys also allowed researchers to examine bats for signs of white-nose syndrome (WNS). Of the total 231 bats of all species netted, 15 individuals from five different species showed wing damage evidence linked to WNS. Indiana bat captures were down by 25 percent compared to 2008. The capture of little brown bats, the most common bat species on the refuge, declined by an alarming 97 percent in 2009. Little brown bats have been heavily impacted by WNS throughout the Northeast. By keeping a close watch on the effects of WNS on the refuge's bat population, researchers will be able to determine trends and better manage bat populations afflicted by this mysterious and deadly disease.

Bird migration work

At *Maine Coastal Islands NWR, Milbridge, ME,* a fall bird migration study conducted on three refuge islands resulted in more than 4,500 songbirds of 87 species captured, exceeding the numbers of birds captured at long-running banding stations. Stations were staffed at Petit Manan, Seal and Metinic islands. Researchers estimate that more than one-half million songbirds could be using Metinic as a stopover on flight from the Canadian Maritimes to their wintering grounds.

A 2004 oil spill off the coast of Virginia impacted more than 2,000 migrating birds. After careful analysis, the Service concluded that razorbills and Northern gannets were two migratory bird species of greatest conservation need that likely suffered significant injuries and mortality from the spill. In 2009, Maine Coastal Islands NWR received $575,000 to fund a razorbill restoration program on Eastern Brothers Island in Jonesport, Maine. This funding will be used to attract nesting birds to the island to increase the population. Maine is the only state in the U.S. with breeding razorbills, and recent surveys found that 85 percent of the estimated 600 nesting pairs statewide nest on four refuge islands.

In partnership with Maine Department of Inland Fisheries and Wildlife, the refuge completed a coastwide survey of breeding gulls and cormorants. The survey documented 8,418 pairs of great black-backed gulls on 200 islands, 20,697 pairs of herring gulls on 182 islands, and 9,409 pairs of double-crested cormorants on 80 islands. The numbers represent a significant decline since the last survey in 1996.

Increased management and monitoring of Maine's nesting islands resulted in the discovery of common murres attempting to nest on the refuge after a 130-year absence. For the past 17 years, the National Audubon Society and the Service have been cooperating to re-establish a nesting colony by using decoys and sounds. In past years, up to 140 murres have been visiting Matinicus Rock each breeding season.

At *Monomoy NWR, Chatham, MA,* refuge staff collaborated with the Conserve Wildlife Foundation to capture red knots and other shorebirds that use the refuge during migration. The study investigated the health of migrating shorebirds using the refuge and surrounding beaches in Chatham, Massachusetts. Monomoy NWR and surrounding beaches host tens of thousands of shorebirds, representing more than 20 species, during fall and spring migrations.

Red knot being banded

At *Block Island NWR, New Shoreham, RI,* volunteers operated a banding station for the sixth consecutive year, documenting land birds on the island during fall migration. Volunteers have banded more than 6,188 birds from 99 species since 2004.

At *Ninigret NWR, Charlestown, RI,* a new songbird banding station was operated using 18 nets, which were open a total of 1,352 hours. More than 2,810 birds of 53 different species were captured, including 2,097 myrtle warblers, 274 gray catbirds, 119 tree swallows, 49 common yellowthroats and 27 swamp sparrows. This surprising number of birds exceeds those captured at more prominent stations in Massachusetts and Connecticut. This reveals the high number of birds depending on the refuge for migration, and the importance of coastal shrublands to birds using the Atlantic flyway.

In 2009 at *Missisquoi NWR, Swanton, VT,* the success of nesting birds was testimony to the refuge's continued efforts to minimize human disturbance, remove invasive species and manage water levels in vital nesting habitats. Nesting bird successes include 121 pairs of state-endangered black terns (the refuge is the only remaining nesting habitat for this bird in the state), 30 pairs of ospreys (more than one third of the statewide nesting population), 345 great blue herons (the largest rookery in Vermont), and many other waterbirds. Refuge staff conducted education and outreach presentations to advise visitors of nesting area management issues. In addition, the refuge worked with volunteers to remove water chestnut and manage water levels to encourage growth of beneficial waterfowl forage and provide stable water levels crucial to successful black tern nesting.

Wetland restoration and management

Wetland restoration and management are very important duties of the NWRS in the Northeast Region. Many of the wetlands in the Northeast have been negatively impacted and restoration efforts can be complicated by current development pressures. The disturbance of soils in many wetlands typically allows invasive plants to enter the system and increases the challenge to restore these wild places. Many refuges have had the opportunity to restore freshwater and tidal wetlands throughout the region, in coordination with state and federal partners. By sharing our wetland management knowledge, we have learned the tools necessary to overcome challenges with invasive wetland plants, and manage wetlands within a developing landscape.

At *Blackwater NWR, Cambridge, MD,* restoration continued on 5.8 acres of tidal marsh on Barren Island, one of few remaining islands in Chesapeake Bay, which provides habitat for fish and shellfish, waterfowl and nesting colonial waterbirds. The island also serves as a protective storm buffer to the Hooper's Island community. This collaborative project involved the National Aquarium, the U.S. Army Corps of Engineers, Maryland Conservation Corps, Friends of Blackwater, National Oceanic and Atmospheric Administration, CIP students and community volunteers. Volunteers planted over 42,000 plugs of marsh grass, and CIP students planted 8,000 plants. More than 90 children from schools in Anne Arundel, Montgomery and Talbot counties in Maryland helped by growing grasses at school and bringing them to plant on-site.

At *Eastern Neck NWR, Rock Hall, MD,* the refuge pursued the Hail Creek restoration project which involved protecting a 30-foot isthmus of land along the head of Hail Creek and a large submerged aquatic vegetation bed found in the creek. This creek provides significant habitat for large concentrations of wintering and migrating waterfowl as well as nursery habitat for fin and shellfish. Seventeen partners joined to develop an innovative solution to threats to key wildlife resources. The partnership included the Service (NWRS and Ecological Services),

Volunteers at Barren Island tidal marsh

Working with CIP students at Blackwater

Maryland Department of Natural Resources, Ducks Unlimited, Maryland Corporate Wetlands Partnership, the National Aquarium, Coastal America, Washington College, Friends of Eastern Neck, Chesapeake Bay Trust and many others. The partnership developed an innovative design for a living shoreline to protect the isthmus and breakwaters; it included additional living components to help reduce the high-energy wave action in the Hail Cove area. The project also included an oyster restoration component in the cove. The celebration and planting of the living shoreline was completed in July 2009 and engaged local school children to help plant the wetland vegetation. The Hail Cove Restoration Partnership is being recognized with the 2009 Coastal America Partnership award for outstanding efforts to restore and protect the coastal environment.

At *Forsythe NWR, Oceanville, NJ,* water control structure #14 was repaired in partnership with Ducks Unlimited. The structure drains the northwest impoundment, which is important migratory bird habitat. By restoring the capability to control water levels in the impoundment, the refuge is better positioned to manage the habitat.

At *Great Swamp NWR, Basking Ridge, NJ,* another successful year of vernal pool surveys was marked by exceptional numbers of state-endangered blue-spotted salamander and wood frog egg masses. A total of 70 pools surveyed on the refuge yielded more than 2,000 blue-spotted salamander and 1,100 wood frog egg masses. Both species rely exclusively on vernal pools for breeding.

At *Montezuma NWR, Seneca Falls, NY,* the refuge began a multi-year project to restore 240 acres of wetland. Restoration will remove muck in solid stands of cattail, creating a series of interconnected potholes and small pools for a mix of open water and emergent marsh vegetation. The project is being accomplished with help from Ducks Unlimited.

Field of wild rice at John Heinz NWR

John Heinz NWR, Philadelphia, PA, completed a 12-acre, $850,000 Natural Resource Damage Assessment and Restoration marsh restoration project to connect newly created wildlife habitat to the natural freshwater tidal flow of Darby Creek. Two new bridges were also installed. The area was hydro-seeded with native vegetation, and more than 1,500 native trees were planted on or near the refuge. State-endangered coastal plains leopard frogs, state-threatened red-bellied turtles and great egrets are using the new habitat on a regular basis. The restoration partnership with Ecological Services and the National Oceanic and Atmospheric Administration is planning an additional 56-acre, $3 million marsh restoration project located at the west end of the refuge along the Darby Creek Trail.

A new refuge partnership was formed with the Philadelphia Zoo to create vernal pool breeding habitat for state-endangered coastal plains leopard frogs. Nocturnal anuran vocalization surveys were continued and expanded through Operation Frog Watch in partnership with the Philadelphia Zoo and National Wildlife Federation. A new population of endangered leopard frogs was found through nocturnal surveys on an additional site within the refuge

Erie NWR, Guys Mills, PA, began a pilot project to evaluate restoration options on streams, wetlands, banks and other ecosystems that may have been affected by the multiple impoundments on streams in the Sugar Lake Division. Water control structures were opened in the pilot project area to restore in-stream aquatic communities and wetland habitats for priority bird species. Data from the pilot project will be used to decide whether to expand the effort to other wetlands, or to modify the restoration project. The refuge will continue to collaborate with the Western Pennsylvania Conservancy to identify the streams and impoundments where management to restore native fish, wildlife and habitats is desireable. This is the start of a refuge-wide effort to restore stream and wetland habitats for native fish, mussels and migratory birds.

At *Great Dismal Swamp NWR, Suffolk, VA,* staff continued a hydrology research project constructing a network of water research sites on the refuge. Data was transmitted hourly by satellite and posted on the U.S. Geological Survey and Virginia Water Science Center Web page. Water levels were measured, collected and sampled from standing wetland water for analysis of nutrients, major ions and isotopes to assist in evaluating nutrient sources. Preliminary analysis of data has been conducted, including evaluation of water levels, modeling of flow and evaluation of the water table. Monitoring will continue in 2010.

At *Canaan Valley NWR, Davis, WV,* restoration work continued on the Central Appalachian Spruce Initiative, for which 130 volunteers planted 4,000 native red spruce seedlings on 14 acres of historic forest shared between the refuge and the Monongahela National Forest. Volunteers from West Virginia University and Davis & Elkins College have been central participants in the effort, and the West Virginia Highlands Conservancy supplied half the seedlings free of charge.

James River NWR, Prince George, VA, completed the first major forest management actions in its 20-year history with the completion of the first phase of a large-scale, multi-phased pine thinning project. Overstocked timber, with stagnated growth and extreme fire danger, has been managed for healthy tree growth and increased wildlife utilization

Erie wetlands, Erie NWR

Volunteer planting a spruce at Canaan Valley NWR

The American Recovery and Reinvestment Act (ARRA)

In February 2009, the American Recovery and Reinvestment Act (ARRA) provided $280 million to the Service as part of a nationwide effort to spur the economy. The Northeast Region received $29 million for infrastructure repairs, construction projects, habitat restoration and energy efficiency improvements on national wildlife refuges. It also provides funding that will double the number of opportunities for young adults to gain experience and employment through the refuge YCC, the region's unique CIP and other career initiatives.

New Visitor Center at Assabet River NWR

The two largest ARRA projects in the Northeast Region are the construction of a new nearly $10 million energy-efficient administrative and visitor services facility for the Long Island National Wildlife Refuge Complex, which comprises nine refuges within the metropolitan New York City area, and $6 million in projects at the Patuxent Research Refuge in Maryland to modernize facilities that will support world-class science for wildlife conservation. The region also received nearly $2 million for energy audits, energy efficiency improvements and alternative energy facility construction at 31 national wildlife refuges in the region. In addition to helping us better meet our conservation mission region-wide, the ARRA projects will create new jobs, save existing jobs, spur economic activity and invest in the long-term economic growth of local communities.

Connecticut

More than $200,000 was allotted to repair the seawall on Outer Island, part of *Stewart B. McKinney NWR,* which will help reopen this part of the island to visitors. The region also allocated funding to expand the refuge's YCC program in 2009.

Delaware

Nearly $250,000 has been provided to upgrade an existing trail at *Bombay Hook NWR,* allowing access for all refuge visitors. Trail upgrade and maintenance projects such as this will help the Service fulfill its mission to connect the American public with the natural world of our national wildlife refuges.

Energy efficiency improvements will be made at the *Prime Hook NWR* office building, where the existing HVAC units will be upgraded with $85,000 in ARRA funding.

Maine

At *Rachel Carson NWR,* three important projects are being constructed using ARRA funding. The largest will provide $748,000 for the construction of a residential facility that will enhance the ability of the refuge to recruit and retain young students and professionals who wish to do important wildlife conservation in this high-cost coastal area. Two other projects totaling $75,000 will enhance visitor facilities through trail and observation platform construction to accommodate the visitors to this popular coastal area.

Moosehorn NWR will receive $101,000 for a water control structure replacement project to enhance migratory bird and fish habitat. Opportunities for youth employment have increased at both refuges through expansion of the YCC and Student Conservation Association (SCA) internships.

Maryland

Patuxent Research Refuge, just south of Baltimore, will receive more than $6 million to modernize facilities. Planning has begun for construction of a large, standard design office facility to consolidate all Division of Migratory Bird Management functions in one modern, energy-efficient facility. Archaeological and historical documentation is capturing the rich wildlife conservation research history of the nation's first refuge established primarily to facilitate wildlife research. Several obsolete structures will be removed, including Stickle Laboratory, to make way for new facilities or restoration of wildlife habitat. A residence facility will be replaced to provide for on-site quarters for refuge staff and researchers. Several important security improvements will be undertaken that would not have occurred without ARRA investment.

In addition to the funding received by the Service for these important efforts, the U.S. Geological Survey received complementary ARRA funding for projects that will result in a new laboratory facility, additional offices and new quarters for research personnel.

Youth programs were expanded at both *Patuxent RR* and at *Chesapeake Marshlands NWR Complex.*

Massachusetts

At *Assabet River NWR,* the Service is using previously allotted construction funding to build a visitor center that will meet the needs of the hundreds of thousands of Americans who enjoy wildlife at the *Eastern Massachusetts NWR Complex.* ARRA funding will allow the Service to complete the visitor center project using approximately $800,000 for fabrication and installation of interactive displays. Another $100,000 will be used to install solar panels on this facility, which was designed with a geothermal heating and cooling system. An additional $2 million will be used to link connections to a multi-town bicycle trail and improve access for fishing, wildlife observation, and interpretation and education.

Monomoy NWR received approximately $1.4 million to save the culturally and historically important Monomoy Light and Keeper's House, which are listed on the National Register of Historic Places. The improvements will open the lighthouse for public use activities adjacent to the refuge wilderness area.

Additional youth employment opportunities have been provided at *Silvio O. Conte NFWR and Great Meadows and Parker River NWRs.*

New Hampshire

Umbagog NWR will receive more than $66,000 for continuing protection and enhancement of the great northern forest by removing several camps and cabins acquired through land purchases. Over time, visitors to the refuge will enjoy a restored area. Unbroken blocks of wildlife habitat will be improved through the project.

Umbagog NWR

At *Umbagog and Great Bay NWRs and Silvio O. Conte NFWR,* additional YCC employment will connect teenagers with nature and provide much needed maintenance efforts and public use improvements.

New Jersey
On the *Barnegat Division of the Edwin B. Forsythe NWR,* more than $500,000 will be used to remove the old state game farm structures on the refuge. Approximately 75 acres of wildlife habitat will be restored and opened to the public after the facilities are removed. A small company owned by a local woman has been contracted to remove buildings, pens and other structures, providing important employment opportunities locally.

At *Great Swamp NWR,* approximately $330,000 will be used to fabricate and install exhibits at the new Helen C. Fenske Visitor Center. This visitor facility is an adaptive use of an old farm that will provide orientation for the more than 600,000 annual visitors to this urban refuge. Funding will also provide installation of solar panels for the facility. An additional $150,000 of ARRA funds will improve habitat by removing buildings and replacing a water control structure and a bridge.

Energy efficiency improvements made at *Edwin Forsythe NWR* include a hot water solar heating system for the new visitor contact station at the Brigantine Division.

New York
The construction of a new energy-efficient administrative and visitor facility for the *Long Island NWR Complex* would not have been possible without an ARRA investment of nearly $10 million. Design work moved rapidly ahead in 2009 in anticipation of contract awards in March 2010, with groundbreaking for the project soon thereafter. The new facility will consolidate NWRS and Ecological Services field staff in one building, resulting in annual savings in energy costs and field station administration. Visitors to the nine Long Island refuges will finally have a facility that provides information, orientation, interpretation and environmental education.

Elsewhere in New York, and in partnership with Ducks Unlimited, the Service will remove old runways and taxiways at *Shawangunk Grasslands NWR,* a former military installation.

The $780,000 project will provide local employment, remove old infrastructure, restore grassland habitat and facilitate public use of the refuge.

A new YCC crew was funded in 2009 at *Iroquois NWR,* providing increased employment for high school-aged youth in western New York.

Pennsylvania
ARRA funding for region-wide energy efficiency projects will support improvements at *John Heinz NWR at Tinicum,* updating the existing geothermal heating and cooling system for energy efficiency. Establishing a YCC crew at *Erie NWR* improved youth employment in western Pennsylvania.

Rhode Island
Approximately $250,000 will be used to install photovoltaic solar arrays at both the *Rhode Island NWR Complex's Kettle Pond Visitor Center and Sachuest Point NWR* headquarters building and visitor contact station. Solar energy improvements will reduce energy usage and greenhouse gas emissions, and provide opportunities for public education on alternative energy efforts.

Vermont
Youth programs were expanded at both the *Silvio O. Conte NFWR and Missisquoi NWR.*

Virginia
Rappahannock River Valley NWR will receive more than $370,000 for facility improvements. Two residences will be refurbished, providing safe and efficient quarters for employees, seasonal workers and volunteers. Boat storage facilities will be improved to extend the life of refuge equipment.

At *Back Bay NWR,* a house is being rebuilt to serve as refuge offices. The use of ARRA funding will save the historic home after years of decline while in private ownership. The new facility will provide improved public service to the people of Virginia's largest city. ARRA funding will improve energy conservation at the visitor contact station through the installation of photovoltaic panels. These construction projects will sustain small local businesses.

Eastern Shore of Virginia NWR will use $240,000 of ARRA funding to create airlock foyers and replace the visitor center heat pumps with energy-efficient units. This is one of the oldest visitor centers in the region and the upgrades will reduce energy use.

A water line replacement project from the mainland to the headquarters at *Chincoteague NWR* will improve the water supply for refuge operations, visitor services and emergency fire response on Assateague Island. Approximately $500,000 is devoted to this project.

Expanded YCC programs at *Great Dismal Swamp, Chincoteague and Back Bay NWRs* provide job opportunities for local teenagers.

West Virginia
At *Ohio River Islands NWR,* planning is underway to repair storm damage to several islands in the river. Island stabilization will prevent erosion and improve fish and mussel habitat on this unique unit of the National Wildlife Refuge System. Additional solar energy capacity will be installed at the refuge's new Energy Star-rated office and visitor center. Project costs at the refuge total $221,000.


Visitor center at Sachuest Point NWR


YCC group at Eastern Shore of VA NWR

Northeast Regional Youth Initiative
The Northeast Region has broadened development of youth programs by expanding the YCC program, forming partnerships to attract youth from diverse populations, and developing a multi-year training program to increase the pool of candidates for future employment.

From 2005 to 2009, the Northeast Region increased funding in the YCC program from approximately $200,000 to $700,000; $230,000 of this increase was through ARRA funding. ARRA funding allowed the region to increase the number of YCC enrollees from 70 to more than 140 participants. Expanding the YCC program has allowed sharing experiences in wildlife management with youth from local communities at more than 20 national wildlife refuges from Maine to Virginia. Participating youth have had the opportunity to learn about conservation and the NWRS and a variety of skills, including wildlife identification, trail maintenance, habitat management, developing a work ethic, and teamwork. The hope is that some of these young adults will choose a conservation career, in part, due to their YCC experience.

In addition to expanding the YCC program, ARRA funding also provided the opportunity to share youth funding with other programs in 2009. The Northeast Region divisions of Migratory Birds, Fisheries, External Affairs and Ecological Services received a total of $166,000 from ARRA funding to expand their youth programs. These funds were used to increase the participation of SCA and Student Temporary Employment Program (STEP) students who worked on a variety of projects, including the production of outreach tools, care and culture of fish, fish health surveys, wildlife surveys, and threatened and endangered species surveys.

In 2008, the Northeast Region started a new partnership effort with SCA called the Conservation Internship Program (CIP). The CIP is designed to recruit and employ 30 culturally and ethnically diverse freshman and sophomore college students for 12 weeks on refuges. Building on the previous year's successful partnership with SCA, the CIP grew to a $300,000 annual effort. These wildlife conservation internships are designed to give students an overall experience of the role of conservation in the Service, and to provide managers with the opportunity to evaluate diverse students for potential employment. This program has already produced promising future employees for the Service. Students have worked on a variety of high-profile projects throughout the region, from seabird management in coastal Maine to communications on wildfire events in southern Virginia, to running visitor services programs in coastal Massachusetts. The collective experience has been of mutual benefit to the Service and students.

The Regional NWRS program continues to evaluate its workforce, and in fiscal year 2009 began efforts to formalize an evaluation and training program from high school to college level. The Northeast Region is outlining a path for students to progress into permanent employment with the Service or into other conservation careers. This path may start at the YCC level and progress through the STEP and Student Career Experience Program (SCEP), which has been in existence for almost 20 years and is designed to increase diversity in the workforce. This program is the final evaluation period used to determine if a student should be a Service employee. The Northeast Region has made a long-term commitment to the SCEP program and recently has increased the number of college-aged SCEP students. Out of concern for having adequate entry-level positions to place high-quality graduating SCEP students, the region established seven refuge trainee positions to provide employment opportunities for graduating SCEP students. Each new refuge trainee will be assigned to a mentoring refuge for a two-year period.

Welcoming the Public from Maine to Virginia

Nearly 6 million people visited a Northeast Region national wildlife refuge in 2009. Some came for one of the more than 200 special events that helped celebrate conservation at one of the 71 refuges. While hunting and fishing have long been popular on national wildlife refuges, visitors are increasingly enjoying wildlife observation, interpretation, environmental education and photography. Together, these represent the six priority wildlife-dependent public uses of refuge lands noted in the National Wildlife Refuge System Improvement Act of 1997.

Hunting
In 2009 almost 70,000 visitors participated in hunting activities on 35 refuges in the Northeast Region. Hunting has been part of the American culture for many years. Today, hunting is a form of recreation that provides opportunities to enjoy the outdoors. It is also used as an


Connecticut warbler

important wildlife management tool on national wildlife refuges. Many refuges, including Patuxent, Eastern Neck, and Bombay Hook NWRs, offer youth hunting and special hunts for persons with disabilities.

Fishing
Fishing remains a favorite pastime of many Americans. In 2009 nearly 540,000 visitors enjoyed fishing on refuges in the region. Fishing can help people appreciate the nation's waterways and understand the importance of protecting, restoring and maintaining the health of valuable fish and wildlife resources. Many refuges offer a Take Me Fishing Day, allowing new anglers the opportunity to learn how to fish. For example, nearly 250 people participated in the Annual Take Me Fishing Day at *Sachuest Point NWR, Middletown, RI*

E.B. Forsythe NWR, Oceanville, NJ, collaborated with the township of Galloway, the New Jersey State Federation of Sportsmen's Clubs, Absecon Saltwater Sportsmen, Cedarwater Bassmasters of South Jersey and Knights of Columbus to sponsor the 7th Annual Hooked On Fishing-Not On Drugs free fishing derby for children. More than 200 children participated in this prevention program offered by the American Sportfishing Association's Future Fisherman Foundation

Eastern Neck NWR, Rock Hall, MD, hosted a Youth Fishing Derby with assistance from the Friends of Eastern Neck and the Maryland Department of Natural Resources.

The Nulhegan Basin Division of *Silvio O. Conte NFWR, Brunswick, VT,* collaborated with the Northwoods Stewardship Center, the Island Pond and the Vermont Chamber of Commerce to sponsor a free introduction to ice fishing

More than 20 local children and their families participated in the 8th Annual Kid's Fishing Day held at *Rappahannock River Valley NWR, Warsaw, VA.*

Environmental Education
Environmental education programs offered through many of our national wildlife refuges enriched the lives of more than 70,000 students and teachers in the Northeast Region in 2009. Learning about wildlife in a classroom or seeing it on a podcast is very different from the thrill of experiencing it firsthand on a national wildlife refuge.


Canisius Ambassadors for Conservation Program at Iroquois NWR

Great Swamp NWR, Basking Ridge, NJ, started a Junior Refuge Manager Program funded by Challenge Cost Share Grant and matched by funds from the Friends of Great Swamp.

Iroquois NWR, Basom, NY, completed another successful year of its partnership with the Canisius Ambassadors for Conservation program. Students from Canisius University in Buffalo were selected to participate in 2009 and developed an educational program at the refuge for middle school students from western New York. A total of 2,151 students from 27 different schools, representing grades 2 through 12, traveled to the refuge and participated in educational programs from mid-May to mid-June. The programs included a guided exploration of forested wetlands, emergent marsh and upland woods. Along the way, students were challenged with field-based birding exercises and then were tested, using conservation games, on what they learned.

At *John Heinz NWR, Philadelphia, PA,* at least 400 volunteers supported the annual Darby Creek clean-up. More than 1,200 visitors attended the Cusano Environmental Education Center for the annual Cradle of Birding Wildlife and Conservation Festival, in partnership with the Delaware County Riverfront Ramble. Hundreds of students participated in the Micro Adventures Program, which illustrates the importance of micro world elements. The program was co-sponsored by the Union of Concerned Scientists, National Wildlife Federation, National Audubon Society and Clean Air Council.

Blackwater NWR, Cambridge, MD, welcomed approximately 760 Dorchester County 4th and 6th grade students to participate in educational programs in FY2009.

Environmental Education at Oxbow NWR

Connecting People with Nature
National wildlife refuges provide a wide range of opportunities for visitors, engaging their curiosity, instilling appreciation and inspiring them to take part in protecting our nation's natural resources. Some examples follow.

Maine Coastal Islands NWR, Rockport, ME and Friends of Maine Seabird Islands introduced 100 people to the refuge during the Third Annual Puffin and Seabird Island Adventure. The refuge currently supports over 85 percent of the Atlantic puffins and razorbills breeding in the U.S.

At *Parker River NWR, Newburyport, MA,* refuge staff and Massachusetts Audubon welcomed 2,500 visitors to the 4th Annual Merrimack River Eagle Festival.

The *Eastern Massachusetts NWR Complex, Sudbury, MA,* attracted more than 100 visitors to attend River Day and learn about efforts to keep the Blanding's turtle off the Endangered Species List. The turtles are state-listed, but studies suggest that the magnitude of threats may warrant federal protection and the Service is currently completing a draft status assessment. Great Meadows and Oxbow NWRs are the only sites in New England where more than 50 of these animals have been documented and the population at Great Meadows is now known to be in decline.

Also at *Great Meadows NWR, Sudbury, MA,* more than 150 people attended the annual Fishing and Riverfest where biologists and volunteers removed water chestnut from the Sudbury River. The Massachusetts Division of Fisheries and Wildlife, Carp Anglers Group, Massachusetts Audubon and Wild and Scenic River Stewardship Council provided additional education about this invasive aquatic plant.

John Heinz NWR, Philadelphia, PA, initiated new youth conservation programs through partnerships with the YMCA's fishing camps, Police Athletic League, Boys & Girls Clubs of Philadelphia, Big Brothers/Big Sisters and the first in-house refuge summer day camps featuring a nature photography week and a fishing/birding week

*Patuxent Research Refuge, Laurel, MD,*welcomed more than 1,000 visitors to celebrate the 106th anniversary of the National Wildlife Refuge System. The annual Patuxent Wildlife Festival, co-sponsored by the U.S. Geological Survey and the Friends of Patuxent, attracted 1,000 visitors to the refuge in October. Volunteers hosted a Birding for the Blind Program for the visually impaired and their families. The 77th Annual Federal Duck Stamp Competition took place at Patuxent; from 224 entries, judges selected Waldorf, Md, resident Robert Bealle's painting of a wigeon as the winner.


Razorbill with puffins

Blackwater NWR, Cambridge, MD, 3,000 visitors celebrated the Ninth Annual Eagle Festival, the refuge's 76th birthday, and the 106th anniversary of the National Wildlife Refuge System all on the same day. Blackwater also hosted 1,000 visitors during their 14th annual open house during National Wildlife Refuge Week in October.

Nature Photography
Photographs are take-home reminders of refuge experiences that can be shared for years to come. Wearing natural colors and walking softly can bring big rewards on national wildlife refuges – as many of the 1.5 million visitors enjoying nature photography on our Northeast Region refuges experienced last year.

Scouts
Northeast Region refuges hosted numerous scouting projects enabling young people to help the refuge, help each other and learn about wildlife and ecology.

Refuge staff and the Friends of *Moosehorn NWR, Baring, ME,* hosted the 47th Annual Moosehorn Boy Scout Camporee, which was attended by Boy Scouts, Cub Scouts and their families from Maine and New Brunswick, Canada. The scouts groomed parts of a handicapped-accessible trail and repaired erosion around informational kiosks. Refuge staff explained waterfowl banding and the use of the data, and demonstrated proper waterfowl handling and banding techniques.

Cub Scout Pack 298 from Hardyston planted 130 native trees and 40 shrubs at *Wallkill NWR, Sussex, Nj*, using Challenge Cost Share funding for streamside habitat restoration.

At *Blackwater NWR, Cambridge, MD*, volunteers, including 39 Cub Scouts and their parents, removed debris from horseshoe crab and diamondback terrapin spawning areas.

The Eastern Massachusetts NWR biological team helped Junior Girl Scout Troop 77166 of Sudbury build new tern traps to capture banded birds and retrieve information at *Monomoy NWR, Chatham, Mass.*

Volunteers, Friends and Partners
Through the generosity of 5,695 volunteers, 222,911 hours were donated toward important biological, maintenance and public outreach work on refuges, such as combating invasive species, banding and counting migratory birds, restoring habitat, welcoming the public and keeping refuges clean of trash and debris. The hours from volunteers over the year are equivalent to the work of 100 full-time employees. The 56 impressive friends groups in the Northeast Region help bring together refuge neighbors,


Working with Boy Scouts at Moosehorn NWR

volunteers and nature lovers to promote public awareness and appreciation of the wildlife resources of our refuges. Here are some highlights.

After years of deterioration, the lighthouse on Egg Rock, part of the *Maine Coastal Islands NWR, Milbridge, ME,* received repair and refurbishing from refuge staff, Bar Harbor businesses and community volunteers. The Bar Harbor Whale Watch Company donated a boat and skiff to transport volunteers and equipment, as well as a crew for shingling. The owner of the Acadian Nature Tour provided lunches and the owner of the Lulu Lobster Boat helped recruit volunteers.

Egg Rock lighthouse, Maine Coastal Islands NWR

At *Silvio O. Conte NFWR, NH*, the Friends of Pondicherry celebrated Earth Day by removing garbage and tires from roadsides.

The 2009 BioBlitz, a 24-hour scientific inventory of all organisms in a specified area, was co-sponsored by the Great Swamp Watershed Association, the Friends of *Great Swamp NWR, Basking Ridge, NJ* and the refuge. More than 60 experts, scientists and 400 visitors to the refuge documented 650 species of animals, fish and plants.

More than 200 volunteers from *E.B. Forsythe NWR, Oceanville, NJ*, co-sponsored by Galloway Township's Clean Communities Program, cleaned up the refuge on Earth Day.

The *Eastern Virginia Rivers NWR Complex, Warsaw, VA,* expanded work to upgrade visitor facilities at the Hutchinson Tract, culminating in a grand opening community event. Upgrades included wildlife observation trails, rest rooms, a pavilion, a butterfly garden, a canoe and kayak launch pad and a fishing pier on Mount Landing Creek. Keynote speaker U.S. Congressman Rob Wittman praised the refuge for conserving land and investing in community support of the project. Partners attending the event included the Raptor Conservancy of Virginia, Virginia Herpetological Society, Virginia Native Plants Society, Wild Bunch Wildlife Rehabilitators, decoy carver Willard Bowen and the Virginia Department of Game and Inland Fisheries. The Tappahannock - Essex Volunteer Fire Department provided lunch.

Cat Point Creek, Eastern VA Rivers NWR

Chincoteague NWR, Chincoteague, VA, developed several new partnerships. One, with the owners of a private residence on the northern portion of Cedar Island, gained cooperation in avoiding sensitive bird nesting areas and the use of a dock for securing the refuge boat. Another was with the Virginia Institute of Marine Sciences (VIMS). Refuge staff stayed in VIMS housing in Wachapreague and used VIMS boat dock and facilities. In addition, having Service staff stationed at Wachapreague was a good outreach tool to the community and raised awareness among boaters that Cedar Island is a national wildlife refuge. The refuge's first year of monitoring birds on Cedar Island had positive outcomes for wildlife, developing partnerships and reaching out to the local community.

Great Dismal Swamp NWR, Suffolk, VA, continued its collaboration with American University's Department of Anthropology to host the Great Dismal Swamp Archaeology Field School on the refuge. The summer course represents a continuation of the Great Dismal Swamp Landscape Study, further developing the understanding of colonialism, slavery and development in the swamp, and the effects on communities composed primarily of African-Americans who fled slavery.

Earth Day clean-up at Forsythe

Bay-breasted warbler

Refuge staff from *Rappahannock River Valley NWR, Warsaw, VA*, celebrated Earth Day by visiting Rappahannock Community College, planting trees for reforestation projects and working with the Tidewater Resource Conservation and Development Council staff on an invasive plant species workshop

New Facilities

Refuge visitors should know from the moment they arrive at our main visitor facilities that they are at a national wildlife refuge and are welcome. With that in mind, in 2009 the Service completed several exciting new visitor facilities in the region. Visitors to these new centers will be warmly greeted and have the opportunity to learn about the wide range of activities available, spend some time viewing exhibits and explore the great outdoors on trails, boardwalks, observation platforms and other facilities.

Refuge Law Enforcement

The region's 32 refuge law enforcement officers carry out laws to protect both the natural resources and public safety on national wildlife refuges. While typically working with federal, state and local partner agencies, of note in 2009 was an increase in coordination with the Service's own Office of Law Enforcement (OLE). Refuge officers supported OLE in search warrants in New Jersey, Massachusetts and Pennsylvania, assisted with case interviews, coordinated off-refuge trust resource law enforcement, and worked on waterfowl hunting task force enforcement in Virginia, Maryland and New Jersey.

The Canadian border and the laws regarding entry, access and import issues offer our officers unique challenges. In 2009, the zone officer in Vermont held a combined agency orientation course, familiarizing Customs and Border Patrol (CBP) agents along the border with the mission of the Service and improving our joint efforts. Additionally, funds were used to upgrade mobile radios to improve communications between refuge officers on patrol near the border and CBP units and dispatchers.

For the second consecutive year, the region's special operations response team (SORT) continued its role as the emergency response security detail to the National Conservation Training Center (NCTC) in the event the site is used as a fallback location by the Washington, D.C. office. In April, the team leadership finalized support by NCTC management for future coordination, logistic support and team training. Additionally, the region's SORT provided six officers in support of President Obama's inauguration.

Outreach events in 2009 included two University of Massachusetts Ranger Academy orientation sessions with 120 students participating, a law enforcement career day event at Westfield College in Massachusetts with 200 students participating, and two career days at Unity College in Maine meeting 100 students and introducing them to the Service mission and employment opportunities. Additionally, the region's refuge law enforcement officers sponsored three SCEP students to attend a region 3 and 5 combined in-service training.

Ninety officers completed the combined law enforcement in-service over a two-week period in March and April, at which the region's Officer of the Year and three officers of the Pennsylvania Game Commission were recognized.

All regional refuge law enforcement officers completed the eight-hour basic electronic control device, or taser, training in 2009 after the tool was approved for Service use.

Seven refuge law enforcement officers and one OLE special agent were trained and equipped to access Criminal Justice Information Systems, the FBI-managed National Crime Information Center, and the National Law Enforcement Telecommunications System. This initiative dramatically increases officer safety, as it provides them real-time, instantaneous and 24-hour access to vehicle and contact identification. It is hoped that in 2010 all officers in the Northeast Region will have this capability.

Customs and Border Patrol Agents and Service Agents meet at Missisquoi NWR